

REMARKS

The present application was filed on May 26, 2006 with claims 1 through 29. Claims 1 through 29 are presently pending in the above-identified patent application

In the Office Action, the Examiner rejected claims 1-3, 5-18 and 20-25 under 35 U.S.C. §102(e) as being anticipated by Li et al. (United States Patent Publication No. 2003/0016621), rejected claims 17-18, 20-21 and 23-25 for the same reasons as their corresponding method claims, rejected claims 26 and 29 under 35 U.S.C. §102(e) as being anticipated by Ma et al. (United States Patent Publication No. 2003/007255), rejected claims 4 and 19 under 35 U.S.C. §103(a) as being unpatentable over Li et al. in view of Liu et al. (United States Patent Publication No. 2004/0208115), rejected claim 28 under 35 U.S.C. §103(a) as being unpatentable over Ma et al. in view of Liu et al., and rejected claim 27 under 35 U.S.C. §103(a) as being unpatentable over Ma et al. in view of Mody et al. (United States Patent No. 7,269,127)

Independent Claims 1 and 16

Independent claims 1 and 16 were rejected under 35 U.S.C. §102(e) as being anticipated by Li et al. Regarding claim 1, the Examiner asserts that Li discloses transmitting a legacy preamble having at least one long training symbol and at least one additional long training symbol (FIG. 3, Data Symbols 330, paragraph 0035).

In the text cited by the Examiner, Li teaches

[0035] FIG. 2 depicts an exemplary OFDM signal 200 displayed along a time axis 210 and against a frequency axis 220. As shown in FIG. 2, the OFDM signal 200 contains a number of individual sub-bands (tones) 230-1, 230-2, . . . 230-K with each respective sub-band centered on a respective one of closely spaced frequencies f_1, f_2, \dots, f_K . FIG. 3 depicts an exemplary communication signal 300 capable of being embedded in the various sub-bands of FIG. 2. As shown in FIG. 3, the communication signal 300 contains a number of sync symbols 310, a number of training symbols 320, a number of data symbols 330 and a number of guard symbols 340.

[0036] *Data symbols, also known as payload symbols, can contain information to be transmitted* Guard symbols are symbols that can pad either or both of the beginning and end of a burst transmission and can be used for a variety of purposes including providing buffering, timing and synchronization. Sync symbols are predetermined symbols placed at various strategic positions within a block of data that can allow a receiver to synchronize or otherwise extract timing information from a transmitted signal.
(Emphasis added)

Contrary to the Examiner's assertion, *data symbols 330 are clearly not long training symbols*, as would be apparent to a person of ordinary skill in the art. Applicants could find no disclosure or suggestion of transmitting a legacy preamble having at least one long training symbol and *at least one additional long training symbol*.

Thus, Li et al. do not disclose or suggest transmitting a legacy preamble having at least one long training symbol and at least one additional long training symbol, as required by independent claims 1 and 16

Independent Claims 26 and 29

Independent claims 26 and 29 were rejected under 35 U.S.C. §102(e) as being anticipated by Ma et al. Regarding claim 26, the Examiner asserts that Ma discloses receiving a legacy preamble (paragraphs 0021, and 0030-0031) having at least one long training symbol (paragraphs 0033, FIGS. 2A-2B, paragraphs 0106-0107, and 0071-0073) and an indication of a duration (paragraphs 0106-0107) of a transmission of said data (paragraph 0033), and at least one additional long training symbol (FIGS. 2A-2B, and paragraphs 0106-0107) on each of said N transmit antennas (FIG. 6, paragraph 0124).

Contrary to the Examiner's assertion, Applicants could find no disclosure or suggestion of *a legacy preamble* having at least one long training symbol and *at least one additional long training symbol*.

Thus, Ma et al. do not disclose or suggest receiving a legacy preamble having at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbol on each of said N transmit antennas, wherein a sequence of each of said long training symbols on each of said N transmit antennas are orthogonal, said legacy preamble transmitted such that said indication of a duration can be interpreted by a lower order receiver, as required by independent claims 26 and 29

Additional Cited References

Liu was also cited by the Examiner for its disclosure of an 802.11 a/g preamble. Liu, however, does not address the subject of legacy preambles that have at least one long training symbol and at least one additional long training symbol.

Thus, Liu et al. do not disclose or suggest transmitting a legacy preamble having at least one long training symbol and at least one additional long training symbol, as required by independent claims 1 and 16, and do not disclose or suggest receiving a legacy preamble having

at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbol on each of said N transmit antennas, wherein a sequence of each of said long training symbols on each of said N transmit antennas are orthogonal, said legacy preamble transmitted such that said indication of a duration can be interpreted by a lower order receiver, as required by independent claims 26 and 29.

Mody was also cited by the Examiner for its disclosure of a SISO receiver. Mody, however, does not address the subject of legacy preambles that have at least one long training symbol and at least one additional long training symbol.

Thus, Mody et al. do not disclose or suggest transmitting a legacy preamble having at least one long training symbol and at least one additional long training symbol, as required by independent claims 1 and 16, and do not disclose or suggest receiving a legacy preamble having at least one long training symbol and an indication of a duration of a transmission of said data, and at least one additional long training symbol on each of said N transmit antennas, wherein a sequence of each of said long training symbols on each of said N transmit antennas are orthogonal, said legacy preamble transmitted such that said indication of a duration can be interpreted by a lower order receiver, as required by independent claims 26 and 29.

Dependent Claims 2-15, 17-25 and 27-28

Dependent claims 2-3, 5-15, 17-18 and 20-25 were rejected under 35 U.S.C. §102(e) as being anticipated by Li et al., claims 17-18, 20-21 and 23-25 were rejected for the same reasons as their corresponding method claims, claims 4 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Li et al. in view of Liu et al., claim 28 was rejected under 35 U.S.C. §103(a) as being unpatentable over Ma et al. in view of Liu et al., and claim 27 was rejected under 35 U.S.C. §103(a) as being unpatentable over Ma et al. in view of Mody et al.

Claims 2-15, 17-25, and 27-28 are dependent on independent claims 1, 16, and 26, and are therefore patentably distinguished over Li et al., Liu et al., Ma et al., and Mody et al., alone or in combination, because of their dependency from independent claims 1, 16, and 26 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

Conclusion

All of the pending claims, i.e., claims 1-29, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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